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[54]	MULTI-CYCLE, ENGINE BRAKING WITH POSITIVE POWER VALVE ACTUATION CONTROL SYSTEM AND PROCESS FOR USING THE SAME				
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[52]	Int. Cl." F02D 13/0 U.S. Cl. 123/32 Field of Search 123/320, 321 123/32:				
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	[75] [73] [21] [22] [51] [52] [56] 33 4 4 5 5 5 5 5 5 5	POSITI CONT USING  [75] Invento  [75] Invento  [75] Assigno  [21] Appl. N  [22] Filed:  [51] Int. Cl.  [52] U.S. Cl  [58] Field o  [56]  3.220,392 4.572,114 4.688,384 5.117,790 5.146,890 5.146,890 5.150,678 5.183,018 5.406,918	POSITIVE PO CONTROL SY USING THE S USING THE S  [75] Inventors: Ghe Uske [73] Assignee: Dies Wiln [21] Appl. No.: 08/9  [22] Filed: Dec. [51] Int. Cl." [52] U.S. Cl. [58] Field of Search [56] Rough [56] Rough [56] Rough [56] Rough [56] Rough [57] 11/1965 4.572.114 2/1986 4.688.384 8/1987 5.117.790 6/1992 5.146.890 9/1992 5.150.678 9/1992 5.150.678 9/1992 5.150.678 9/1992 5.404.351 4/1995 5.406.918 4/1995		

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## [57] ABSTRACT

An apparatus and method for effectuating multi-cycle engine braking is disclosed. The present invention controls the operation of the engine valves to permit more than one compression release event during a single engine operating cycle. The apparatus includes an assembly for operating at least one exhaust valve of an engine cylinder during a positive power operation. The apparatus further includes an assembly for operating at least one intake valve of the engine cylinder. The apparatus further including an assembly for operating the at least one exhaust valve during an engine braking operation.

## 21 Claims, 14 Drawing Sheets